From: Coltrain, Katrina
To: Teri Mcmillan (tmcmillan@eaest.com)
Subject: FW: Updated Wilcox Oil Company Superfund Site figures
Date: Monday, April 04, 2016 3:50:00 PM

Teri, here are some thoughts and questions form the HQ reviewers when they reviewed the figures presented by ERT. Tom seems to think that most of this will be explained in the report text (promised by the end of next week). He also indicated that it would be the end of the reporting—I am not certain what this means. I would think that we would have a chance to review and question any interpretation presented.

I think that we had some of the same questions as those presented below.

Katrina Higgins-Coltrain
Remedial Project Manager
US EPA Region 6
LA/OK/NM Section (6SF-RL)
1445 Ross Avenue
Dallas, Texas 75202
214-665-8143

From: Jefferson, Matthew
Sent: Monday, April 04, 2016 2:40 PM
To: Coltrain, Katrina <coltrain.katrina@epa.gov>
Cc: Kady, Thomas <Kady.Thomas@epa.gov>; jonathan.d.mcburney@lmco.com; Gilbert, Edward <Gilbert.Edward@epa.gov>; Cummings, James <Cummings.James@epa.gov>; Dyment, Stephen <Dyment.Stephen@epa.gov>
Subject: RE: Updated Wilcox Oil Company Superfund Site figures

Hi Katrina,

Thanks again for the opportunity to review and comment on some of the figures from the 2015 fall and winter field work at the Wilcox Oil superfund site. Because of my limited knowledge of LIF tools, I have reached out to two of our in-house experts (Jim Cummings and Ed Gilbert) using the LIF at wood treater sites to help with the interpretation of the figures. We had some general observations, but if we had a meeting or conference call with the vendor of the LIF services to discuss both the specifics of the ROST tool deployment, what appears to be the 'intermediate' status of data interpretation, and where they stand with regard to conclusions and recommendations would be helpful.

Here are our observations:

- ROST uses a 290nm dye laser which is a shorter wavelength than UVOST (308nm) and significantly shorter than TarGOST (532nm). Smaller wavelengths are better for low to moderate PAHs and not so much for heavy PAHs. It is likely that ROST or UVOST are appropriate LIF tools here based on the DRO being the largest percentage at all locations?

- Multiple petroleum products are apparent at this site based on the waveform diagrams and the different colors in the %RE depth plots. Note that relative fluorescence response may vary between petroleum products. Was there any attempt to ID products based on response?
- Was there any attempt to evaluate natural fluorescence?
- Was there any attempt to relate lithologic interference/bias to response? CPT data should indicate lithology and this can be compared to similar product responses at other locations or depths.
- 2D contour plots would have benefited from hand contouring rather than interpolation/extrapolation software. 3D visualization of all responses doesn't appear to add anything especially since all apparent responses were used to perform the interpolation/extrapolation.
- Interpreting and attaching significance to the %RE readings from the instrument
- Confirmatory sampling if any (Important NOTE: Due to site heterogeneity, LIF tool vendors generally advise against trying to take classical confirmatory sampling via borings)
- Other lines of evidence that may have been used to corroborate results.
- Tools and approaches used to generate the 3-D visualizations
- Additional useful information for this largely LNAPL site is location of the water table and seasonal (and possible) longer term fluctuations
- At wood treater and MGP site, we start looking for the most significant contamination. For wood treaters, source areas are often under former drip pads. For MGP's, volumes beneath gas holders are often more highly contaminated. We are currently less familiar with refineries. Are there an 'rules of thumb' regarding where high(er) areas of contamination are likely to be found at refineries?
- What were the recovery rates from the borings?
- Is there any relationship between the CPT/ROST work and the EM-30/GPR studies?

Let me know if you would like to discuss.

Thanks,
Matt

Matthew Jefferson
Environmental Engineer
EPA Headquarters – Office of Superfund Remediation and Technology Innovation
Office: (703) 603-8892
Cell: (703) 209-4784
Fax: (703) 603-9116
jefferson.matthew@epa.gov

From: Coltrain, Katrina
Sent: Friday, March 25, 2016 4:20 PM
To: Todd Downham <todd.downham@deq.ok.gov>; Turner, Philip <Turner.Philip@epa.gov>; Teri Mcmillan (tmcmillan@eaest.com) <tmcmillan@eaest.com>; cradu@eaest.com; lvega_eaest.com <lvega@eaest.com>; Jefferson, Matthew <jefferson.matthew@epa.gov>; Crumbling, Deana <Crumbling.Deana@epa.gov>; Barry Forsythe <barry_forsythe@fws.gov>; Kapuscinski, Rich <Kapuscinski.Rich@epa.gov>; jsnyder@eaest.com; Thomas, Duane <djthomas@eaest.com>
Cc: Kady, Thomas <Kady.Thomas@epa.gov>; jonathan.d.mcburney@lmco.com
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Figures for Wilcox

Katrina Higgins-Coltrain
Remedial Project Manager
US EPA Region 6
LA/OK/NM Section (6SF-RL)
1445 Ross Avenue
Dallas, Texas 75202
214-665-8143

From: Coltrain, Katrina
Sent: Wednesday, March 16, 2016 3:01 PM
To: Todd Downham <todd.downham@deq.ok.gov>; Turner, Philip <Turner.Philip@epa.gov>; Teri Mcmillan (tmcmillan@eaest.com) <tmcmillan@eaest.com>; Christina Radu (cradu@eaest.com) <cradu@eaest.com>; Luis Vega (lvega@eaest.com) <lvega@eaest.com>; Jefferson, Matthew <jefferson.matthew@epa.gov>; Crumbling, Deana <Crumbling.Deana@epa.gov>; 'Barry Forsythe' <barry_forsythe@fws.gov>; Rich Kapuscinski (Kapuscinski.Rich@epa.gov) <Kapuscinski.Rich@epa.gov>; 'jsnyder@eaest.com' <jsnyder@eaest.com>; 'Thomas, Duane' <djthomas@eaest.com>
Cc: Kady, Thomas <Kady.Thomas@epa.gov>; 'Mcburney, Jonathan D' <jonathan.d.mcburney@lmco.com>
Subject: Updated Wilcox Oil Company Superfund Site figures

Team, figures from the tank farm and Lorraine are ready for review.

Please send any comments by Tuesday of next week.

Tank Farm Investigation Results.pdf: Graphic Representation of the Results of the Tank Farm Investigation at the Wilcox Oil Company Superfund Site Report 3/11/2016 Lorraine Investigation Results.pdf: Graphic Representation of the Results of the Lorraine Area Investigation Report 3/10/2016

Katrina Higgins-Coltrain

Remedial Project Manager
US EPA Region 6
LA/OK/NM Section (6SF-RL)
1445 Ross Avenue
Dallas, Texas 75202
214-665-8143